DEVELOPMENT SECRETARIAT.

Statement of Cattle Mortality.

READ—

Letter No. Per. 63 of 31-32, dated 17/19th November 1931, from the *Director of Agriculture in Mysore, forwarding the Statement of Cattle Mortality in the State for the year ending 30th June 1931, with his review thereon.

(* Director's review and the Statement are printed as Annexures.)

ORDER NO. D. 2949-58—STCS. 19-31-2, DATED 10TH DECEMBER 1931.

Recorded.

The delay of over one and a half months in the submission of the report should have been avoided.

The total mortality of cattle in the State shows a decrease of 2·1 per cent as compared with that of the previous year, while mortality under contagious diseases showed a decrease of 9 per cent over that of the previous year. The decline in the mortality figure under Rinderpest is particularly noticeable, the figure, *viz.*, 4,239 being the lowest on record and indicating a decrease of 51 per cent. Government note that this result has been achieved by effective measures adopted by the Department to prevent the spread of cattle diseases. Mortality under Hæmorrhagic septicæmia also showed a considerable decline while there was a slight increase under Anthrax and Blackquarter. The increase in the case of the two last mentioned diseases is reported to be due to the want of timely supply of vaccine. This should have been prevented. Mortality due to wild animals continues to be on the increase.

Cattle Mortality Returns.—Government regret to observe that the collection of cattle mortality statistics still leaves much to be desired. The attention of the Deputy Commissioners is invited to the observations of the Director regarding the non-receipt of the returns and they are requested to see that necessary action is taken to ensure the collection and submission of statistics.

B. T. KESAVA IYENGAR,
Secretary to Government,
Development Department.

REVIEW ON THE CATTLE MORTALITY IN THE STATE FOR THE YEAR ENDING 30TH JUNE 1931.

The total mortality in the State during the year from all causes both contagious and non-contagious, shows a decrease of 1,665 or 2·1 per cent over that of the previous year.

The mortality under contagious diseases alone shows a decrease of 2,229 or 9 per cent over that of the previous year.

Mortality under Rinderpest shows a marked decrease during the year and is only 18 per cent of the total mortality under contagious diseases, and is 51 per cent of that of the previous year.

Compared with the heavy mortality experienced since the introduction of the S. S. method of inoculation for the last six years against Rinderpest, the reported mortality

during the year is the lowest ever recorded, and is only 15 per cent of the highest mortality during the severest wave that passed through the State during 1928-29 when the peak of the curve had been reached.

1926-27	.. 12,321	1929-30	.. 8,590
1927-28	.. 14,891	1930-31	.. 4,239
1928-29	.. 28,261		...

This is largely due to the ready and willing co-operation of the District Magistrates, who ordered the closure of most of the important Cattle Fairs and minimised the movement of cattle from infected villages and co-operated with the Department in the prompt and effective working of the Cattle Disease Regulation. This together with the large number of cattle, *viz.*, 6,29,336 protected by active immunisation during the previous years, minimised to a very great extent the spread of disease. It is also gratifying to note that the raiyats and cattle owners in the State have now fully realised the efficacy of the preventive measures adopted to stamp out the disease and by their co-operation have made it easier for the prompt adoption of preventive measures by the department. The disease was well under control in all the Districts during the year.

During the year under review, although in certain instances there was a delay in the disposal of cases under the Regulation, 261 persons in 49 villages were prosecuted under the Rules. Eighty-one were convicted and 108 were acquitted and at the close of the year 72 cases were still pending disposal before the Magistrates. This had a beneficial effect in furthering the work of the Department and made it possible in all cases to protect more than 90 per cent of the cattle of the villages against the disease.

One lakh thrity-two thousand seven hundred and seventy-seven S. S. Inoculations were performed during the year.

The mortality under Hæmorrhagic Septicæmia showed a decrease of 33 per cent to that of the previous year. But under Anthrax and Blackquarter there was an increase of 3 per cent and 13 per cent over that of the previous year. These diseases could not be attended to more fully during the year owing to paucity of supply of vaccines in time, although cattle owners were anxious for inoculations. The three diseases alone have contributed more than 48 per cent of the mortality under contagious diseases.

Sixty-eight thousand four hundred and thrity-eight incoulations, against these diseases, were performed during the year.

During the year the mortality under Foot and Mouth showed an increase of 58 per cent over that of last year.

Mortality under non-contagious diseases shows a slight increase of 1·5 per cent over that of the previous year, the deaths due to natural decay and accidents and losses due to wild animals being specially noticeable.

Although the receipt of C. M. returns from Patels by the Taluk Offices has to a certain extent improved, in 40 per cent of the taluks it is still unsatisfactory and below the average. In spite of Government Orders, Revenue Commissioner's circulars and the periodical visits by local Veterinary Inspectors, to taluk offices, sufficient endeavour does not seem to have been made to improve the collection of this important return.

The number of C. M. Returns received from the Patels of Bangalore, Hoskote, Devanhalli, Mandya, Malvalli, Nanjangud, Periyapatna, Hassan, Arkalgud, Saklespur, Belur, Chennnarayapatna, Hole-Narasipur, Tumkur, Madhugiri, Hiriyur and Kadur Taluks still remains unsatisfactory.

In Bangalore, Belur and Nanjangud no endeavour seems to have been made to collect even 50 per cent of the returns.

The following table shows that there has been practically no improvement in the receipt of the returns for the past five years in a very large number of Taluks:—

Place	1926-27	1927-28	1928-29	1929-30	1930-31
	Per cent	Per cent	Per cent	Per cent	Per cent
Bangalore	41	50	41	40·5	48
Hoskote	61	49	65	60.5	56·5
Devanhalli	54	52	58	56	55·5
Magadi	53	52	63	55·5	62·5
Closepet	77	73	72	61	57·5
Kolar	76	73	69	66	65·5
Bowringpet	61	60	56	64	63
Heggaddevankote ..	51	65	65	66·5	66
Seringapatam	46	61	61	62	61
Mandya	70	61	61	63·5	62·5
Malvalli	70	61	61	63·5	61
T.-Narsipur	53	48	77	66	66
Nanjangud	56	46	52	56	49·5
Yedatore	56	56	69	67	65·5
Periyapatna	..	..	..	..	55
Hassan	59	59	64	58·5	54
Sakiespur	71	70	62	59·5	53
Belur	52	55	45	48·5	46·5
Arakalgud	40	46	42	51	51
Channarayapatna ..	61	66	69	62	58·5
Hole-Narsipur ..	63	67	70	70	60
Tumkur	66	68	60	52	57·5
Madhugiri	74	64	69	57	58
Sira	72	67	68	67	64
Koratagere	81	79	81	74	66
Chitaldrug	62	60	62	64	64·5
Hiriyur	71	72	67	68	60
Hosdurga	41	37	48	66	62·5
Challakere	71	70	75	71	64·5
Shimoga	40	50	49	63	65·5
Sagar	63	60	52	63	64
Kadur	59	72	71	53·5	55
Chikmagalur	68	62	68	72	65

* The average for the year was 72 per cent from the whole State.

In some Districts a very noticeable slackness has of late crept in. The following statement gives the percentages for the defferent districts.

From the average based on this year's percentage of receipts, it is observed that Hassan, which and been collecting more than 80 per cent of cattle mortality returns during the previous years, shows a fall of more than 20 per cent in the collection of the returns this year.

	Per cent.		Per cent.
Kadur	80·7	Chitaldrug	71
Shimoga	79	Mysore	69
Kolar	78	Bangalore	67·5
Tumkur	72·6	Hassan	59

Return of Cattle Mortality in the Mysore State for the year ending 30th June 1931.

District	Description of animal	Contagious diseases										Non-contagious causes						Total				
		Rinderpest	Hæmorrhagic Septicæmia	Anthrax	Black-quarter	Foot and mouth	Surra	Red water	Parasitic diarrhœa	Other contagious diseases	Total	Snake-bite	Wild animals	Criminal poisoning	Natural decay and accidents	Other causes	Total	Cattle	Buffaloes	Ponies	Sheep and goats	Asses
BANGALORE ... For the year 1929-30.	Cattle ...	622	43	590	1,288	56	...	8	167	231	3,000	72	404	9	2,567	825	3,897	6,897	...	...	...	...
																		8,287				
	Buffaloes ...	79	3	82	48	11	...	1	50	35	261	7	22	1	284	146	410	...	671	...	...	...
																			981			
	Ponies ...	...	...	...	...	...	...	...	...	3	3	...	2	...	2	4	8	...	...	11	...	...
																				13		
	Sheep and goats	16	1	67	2	34	...	...	28	178	316	8	91	...	357	269	720	...	...	...	1,036	...
																					917	
	Asses ...	...	1	...	...	...	...	...	...	4	5	...	1	...	4	1	6	...	...	...	...	11
																						2
MYSORE ... For the year 1929-30.	Cattle ...	299	96	560	1,190	66	...	2	260	100	2,576	17	803	3	4,270	1,119	6,212	8,788	...	...	...	...
																		8,780				
	Buffaloes ...	68	42	86	88	25	...	1	103	27	445	2	68	...	592	358	1,005	...	1,450	...	...	...
																			1,520			
	Ponies ...	...	...	...	...	...	...	...	...	7	7	...	3	...	...	...	3	...	...	10	...	...
																				25		
	Sheep and goats ...	7	...	220	...	15	...	...	...	231	473	1	65	...	138	199	403	...	...	...	876	...
																					730	
	Asses ...	...	...	...	...	...	...	...	...	...	...	...	6	1	9	5	21	...	...	...	...	21
																						20
TUMKUR ... For the year 1929-30.	Cattle ...	83	42	861	1,189	197	...	...	138	216	2,126	15	269	...	3,609	784	4,677	6,803	...	...	...	...
																		6,703				
	Buffaloes ...	15	8	24	54	30	...	...	38	31	195	4	21	1	458	186	670	...	865	...	...	...
																			179			
	Ponies ...	...	...	3	...	...	...	...	...	1	4	...	...	...	6	5	11	...	...	15	...	...
																				6		
	Sheep and goats ...	1	...	52	4	118	...	...	50	406	826	...	182	6	510	670	1,368	...	...	...	1,994	...
																					1,419	
	Asses ...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	4	6	...	...	...	...	6
																						14
KOLAR ... For the year 1929-30.	Cattle ...	118	63	445	409	22	...	3	72	132	1,369	40	111	7	961	429	1,548	2,907	...	...	...	...
																		4,382				
	Buffaloes ...	78	18	75	88	8	...	...	31	39	282	13	17	...	849	201	580	...	862	...	...	...
																			1,426			
	Ponies ...	...	...	1	...	...	...	...	...	...	1	1	...	...	5	4	10	...	...	11	...	...
																				18		
	Sheep and goats ...	68	6	910	12	37	...	...	91	1,400	2,593	15	137	26	666	991	1,835	...	...	...	4,428	...
																					3,206	
	Asses ...	...	...	1	...	...	...	...	...	1	2	...	20	...	56	14	89	...	...	...	...	91
																						89
SHIMOGA ... For the year 1929-30.	Cattle ...	691	278	276	78	208	...	2	51	98	1,677	122	3,321	12	3,677	374	7,806	9,483	...	...	...	...
																		9,053				
	Buffaloes ...	911	84	164	17	88	...	...	120	29	1,363	96	945	4	1,708	505	3,258	...	4,621	...	...	...
																			4,069			
	Ponies ...	...	...	...	...	...	...	...	...	10	10	...	6	...	10	5	21	...	...	31	...	...
																				32		
	Sheep and goats ...	5	...	...	...	...	...	...	...	5	5	...	41	...	8	4	53	...	...	...	58	...
																					66	
	Asses ...	...	...	...	...	...	...	...	...	2	2	...	1	...	1	...	2	...	...	...	...	4
																						3

Return of Cattle Mortality in the Mysore State for the year ending 30th June 1931.—*concld.*

District	Description of animal	Contagious diseases										Non-contagious causes						Total				
		Rinderpest	Haemorrhagic septicaemia	Anthrax	Blackquarter	Foot and mouth	Surra	Red water	Parasitic diarrhœa	Other contagious diseases	Total	Snake-bite	Wild animals	Criminal poisoning	Natural decay and accidents	Other causes	Total	Cattle	Buffaloes	Ponies	Sheep and goats	Asses
KADUR ... For the year 1929-30	Cattle ...	213	50	50	124	139	...	2	49	66	693	27	1,606	22	2,457	305	4,127	1,820 *5,420*	...	...	...	...
	Buffaloes ...	137	40	16	36	35	...	...	32	24	321	4	206	11	646	133	1,000	...	1,821 *1,367*	...	...	...
	Ponies ...	...	...	...	...	...	...	...	...	2	2	2	1	...	2	...	5	...	...	7 *15*	...	...
	Sheep and goats...	10	...	...	...	...	...	...	1	...	11	1	20	.	11	6	37	...	...	...	48 *490*	...
	Asses ...	...	...	...	...	...	...	...	...	...	...	1	1	...	1	...	3	...	...	...	...	8 *18*
HASSAN ... For the year 1929-30	Cattle ...	136	128	59	577	86	..	5	118	28	1,081	19	538	4	3,026	595	4,182	5,268 *5,978*	...	...	...	...
	Buffaloes ...	65	82	18	47	18	...	4	120	6	355	3	60	3	548	146	765	...	1,110 *1,080*	...	...	...
	Ponies ...	...	...	...	...	...	...	...	...	1	1	...	3	...	6	4	13	...	...	14 *4*	...	...
	Sheep and goats...	...	..	...	...	...	...	...	1	303	304	...	21	...	85	20	126	...	...	...	430 *496*	...
	Asses ...	...	...	...	...	...	...	...	...	1	1	...	1	...	5	...	6	...	...	...	...	7 *7*
CHITALDRUG ... For the year 1929-30	Cattle ...	227	28	239	142	58	...	...	14	117	825	35	221	4	2,586	650	3,556	4,381 *4,668*	...	...	...	...
	Buffaloes ...	247	103	137	45	48	...	...	15	161	756	19	77	4	1,349	351	1,800	...	2,556 *2,635*	...	...	...
	Ponies ...	...	...	...	...	...	...	...	...	...	...	...	6	...	14	4	24	...	...	24 *29*	...	...
	Sheep and goats...	8	...	80	..	77	...	...	1	689	855	...	12	1	1,507	2,130	3,650	...	...	...	4,505 *2,983*	...
	Asses ..	...	...	...	...	...	...	...	...	9	9	1	9	1	10	1	22	...	...	...	...	91 *8*
Total for the State for 1930-31.	Cattle ...	2,534	528	2,674	4,947	777	...	17	872	988	13,337	347	7,038	61	29,183	5,361	36,005	49,342 *53,260*	...	...	...	...
	Buffaloes ...	1,600	332	554	367	258	...	6	509	352	3,978	148	1,406	24	5,879	2,021	9,478	...	13,456 *14,257*	...	...	...
	Ponies ...	...	...	4	...	...	...	...	...	24	28	8	21	...	45	26	95	...	...	128 *140*	...	...
For the year 1929-30	Sheep and goats...	105	86	1,929	18	276	...	...	167	2,202	5,183	20	569	33	3,282	4,268	8,192	...	...	...	13,575 *10,367*	..
	Asses ...	...	1	1	...	...	...	...	...	17	19	2	30	2	87	25	155	...	...	...	...	174 *106*
Grand Total for the year 1930-31.	.....	4,289	947	4,662	5,332	1,311	...	23	1,548	4,583	22,545	520	9,068	120	38,476	11,741	59,925	...	...	...	...	=76,470
Total for the year 1929-30.	.....	8,690	1,419	4,483	4,728	829	...	17	1,617	3,142	24,774	492	8,534	138	31,197	13,005	53,361	...	...	...	...	=78,135

Statement showing the receipt of Cattle Mortality returns in Mysore State for the half-year ending with 30th June 1931.

District	Taluk	Total No. of charak villages	Percentage of returns received for						Average percentage returns received for the half-year ending 30th June 1931	Average percentage of returns received for the half-year ending 31st Dec. 1930
			Jan.	Feb.	March	April	May	June		
Bangalore ...	Bangalore	381	40	45	49	56	47	49	48	48
	Anekal	181	93	94	87	87	90	91	90	92
	Hoskote	319	49	57	56	51	53	70	56	57
	Nelamangala	256	75	80	74	48	43	68	56	60
	Dodballapur	272	76	78	79	76	74	80	77	68
	Devanhalli	242	53	55	58	55	55	55	55	56
	Kankanhalli	231	83	85	88	67	85	94	84	91
	Magadi	303	65	58	65	59	60	62	62	63
	Channapatna	142	87	89	88	87	86	87	87	86
	Closepet	135	57	64	64	68	62	66	64	51
Kolar ...	Kolar	295	61	78	65	68	57	70	66	65
	Malur	297	76	70	72	73	75	72	73	69
	Mulbagal	308	87	85	79	81	79	74	81	80
	Bowringpet	359	65	58	59	67	61	63	62	64
	Chikballapur	212	84	82	75	83	81	76	80	85
	Bagepalli	209	65	85	80	64	82	80	76	82
	Gudibanda	96	93	95	94	96	89	93	93	94
	Chintamani	325	85	88	83	83	85	87	85	85
	Siddlaghatta	247	60	61	58	57	69	64	61	69
	Goribidnur	209	95	92	90	91	90	90	91	94
	Srinivaspur	297	87	86	88	86	84	91	87	88
Mysore ...	Mysore	131	68	64	74	86	89	87	78	68
	Heggaddevankote	167	73	54	59	60	58	65	61	71
	Seringapatam	180	65	61	64	61	54	55	60	62
	Mandya	284	66	57	59	52	52	52	56	69
	Malvalli	216	56	52	53	58	62	55	57	65
	T. Narsipur	127	64	65	59	60	71	75	65	67
	Nagamangala	340	76	71	76	66	77	77	73	77
	Krishnarajpete	335	75	78	78	58	76	77	72	76
	Chamrajnagar	148	81	79	79	73	77	84	78	83
	Nanjangud	170	44	51	55	40	67	56	52	47
	Yelandur	34	97	100	100	100	91	90	96	97
	Gundlupet	126	63	59	80	79	74	76	71	89
	Yedatore	150	74	64	72	63	65	62	67	64
	Hunsur	170	81	76	80	80	80	82	79	71
	Periyapatna	161	54	53	53	54	51	57	53	57
Hassan ...	Hassan	357	56	45	42	76	44	56	53	55
	Arkalgud	256	55	55	50	46	59	48	52	50
	Channarayapatna	368	69	58	58	66	57	56	57	60
	Saklespur	270	48	22	50	53	44	56	46	61
	Alur Sub-Taluk... ...	168	78	77	74	75	70	82	76	78
	Belur	355	47	50	43	47	41	37	44	49
	Hole-Narsipur	200	53	69	45	68	47	54	55	65
	Arsikere	321	75	77	80	73	77	74	76	71
Tumkur ...	Tumkur	310	63	61	58	53	61	57	59	56
	Madhugiri	271	59	51	56	56	55	66	56	60
	Sira	220	61	73	69	68	62	67	67	61
	Gubbi	361	72	74	76	76	92	79	79	56
	Kunigal	268	85	74	88	93	74	60	77	88
	Pavagada	135	86	88	93	93	83	87	88	88
	Tiptur	227	84	85	84	77	79	85	82	84
	Chiknayakanhalli	202	85	80	85	81	78	81	82	88
	Turuvekere	142	68	75	80	79	72	82	75	74
	Kortagere	218	72	62	67	68	63	62	66	66
Chitaldrug ...	Chitaldrug	165	65	67	60	64	54	50	60	69
	Jagalur	134	84	75	81	69	59	56	72	75
	Hiriyur	137	56	59	63	71	56	24	55	65
	Davangere	176	71	65	67	67	64	78	67	70
	Harihar	76	100	87	100	100	99	98	97	95
	Hosdurga	187	60	65	54	60	69	58	63	62
	Holalkere	153	73	76	75	76	70	80	75	69
	Challakere	151	78	75	66	60	69	64	68	61
	Molakalmuru	81	75	77	70	78	82	75	75	81
Shimoga ...	Shimoga	228	67	76	55	44	88	70	65	68
	Kumsi	67	93	93	91	97	90	71	89	96
	Honnali	168	81	79	85	75	80	84	81	77
	Channagiri	192	87	86	81	80	87	64	81	85
	Sorab	264	79	62	73	59	84	71	80	83
	Sagar	261	68	70	64	47	57	64	62	66
	Nagar	202	92	89	90	91	86	62	85	88
	Shikarpur	140	80	75	75	50	77	80	73	79
	Tirthahalli	246	86	80	81	87	85	79	83	82
Kadur ...	Kadur	309	59	55	54	55	47	55	54	56
	Chikmagalur	219	69	63	62	62	52	70	63	67
	Tarikere	189	78	82	83	83	80	80	81	81
	Mudigere	138	92	82	90	93	91	92	90	90
	Koppa	105	88	93	72	93	92	82	85	92
	Narasimharajapura	64	89	87	87	84	81	82	86	89
	Sringeri	25	100	100	100	100	100	100	100	97

Administration of the Department of Geology for the year 1930-31.

READ—

Letter No. 6042-14, dated 18th September 1931, from the Officiating Director of Geology in Mysore, submitting the Administration Report of the Department of Geology for the year 1930-31.

ORDER No. D. 2917-22—GEOL. 24-31-5, DATED 7TH DECEMBER 1931.

Recorded.

I. ADMINISTRATION.

Mr. P. Sampat Iyengar, Director of Geology, was in charge of the Department during the year except for 15 days prior to Christmas and for one month in June 1931, when Mr. A. M. Sen officiated as Director. The services of Mr. B. Rama Rao, Assistant Geologist, were lent to the Baria State for a period of nine months from 1st October 1930. About the beginning of March 1931, the services of the two temporary Field Assistants were ordered to be terminated. The services of one of them were, however, retained in connection with the work of Soil Survey in the Irwin Canal Tract. The general depression in trade and commerce has affected the main administrative work of the Department, *viz.*, the grant of certificates of approval, of exploring and prospecting licenses and of mining leases for minerals. There were only 22 applications to be dealt with as against 34 in the previous year.

REVISION OF RULES.

The draft revised rules for prospecting licenses and mining leases for minerals other than gold as well as a set of new rules for the working of small mines framed by the Director of Geology, in consultation with the Chief Inspector of Mines, are under the consideration of Government.

The permission granted last year to the United Steel Companies Limited, Shimoga, to remove within two years from 20th August 1930, from their prospecting license and mining lease areas, a quantity of 75,000 tons of manganese ore of grade of 30 per cent and below paying a concession rate of six annas per ton of royalty against the ordinary uniform rate of ten annas per ton, was continued during the year. Owing to continued trade depression and consequent want of market for manganese ore, the United Steel Companies Limited, Messrs. Oakley, Duncan & Co., and Messrs. Manickavelu Mudiliar & Son, notified suspension of operations on their mining blocks and Government, after due consideration, were pleased to grant their requests and to order the waiving of penalties that were leviable on them under the lease terms and time was granted to them up to the end of the year under report to re-commence work on the blocks.

MINING REVENUE.

The demand for the year on account of mining revenue and geological receipts exclusive of the royalty on gold was Rs. 99,311-3-7 and it is noted with satisfaction that this amount together with the opening balance of Rs. 873-10-6 was fully collected.

II. INSPECTIONS.

The current prospecting and mining blocks were inspected by the Senior Officers of the Department as also the Chrome and Mining Operations at Byrapur and Talur and the Graphite workings at Ganacharpur.

III. MINING AND PROSPECTING.

There were 13 certificates of approval, 42 mining leases and 12 prospecting and collecting licenses current during the year as against 21, 43 and 18 respectively in the previous year. The total area under mining leases and prospecting licenses was 27,890 acres and the total rents and cesses recovered from the blocks amounted to Rs. 17,073. As in the previous year, there were 21 leases current for gold—all in the Bowringpet Taluk.

The results of the working of the five Gold Mining companies on the Kolar Gold Field during the year were as follows:—

	1929-30. (Actuals)	1930-31. (Approximate).
Total quantity of fine gold produced ...	327,000 Ozs.	349,018 Ozs.
Value ...	Rs. 1,86,21,485	Rs. 1,96,71,065.
Total quantity of fine silver returned by the mint.	16,681 Ozs.	17,644 Ozs.
	Rs	Rs
Value... ..	21,813	20,566
Total Royalty ..	10,05,661	10,35,625

As regards manganese, there were nine mining leases and five prospecting licenses current during the year. Throughout the year, the markets for manganese ore remained lifeless and in the absence of business or enquiry, even the little work that was being carried on on the blocks had to be stopped. The United Steel Companies Limited, Shimoga, also suspended all operations. The total output was 169 tons and the royalty recovered was only Rs. 156-12-0. The market for Chromite continued to be dull and consequently the output has been considerably restricted. The output was 10,986 tons and the royalty recovered amounted to Rs. 8,298-11-7. The output of magnesite on the only block on which work was carried on (Dodkanya) was 640 tons and the lessees paid a dead rent of Rs. 1,760 and no royalty was levied. The output of Kaolin was 2,794 tons and the royalty payable was Rs. 2,247. Eighty-six tons of soapstone were removed for the manufacture of slate pencils in the factories in Tumkur Town and a minimum royalty of Rs. 150 was recovered from the licensees.

IV. Departmental Mining and Prospecting.

Owing to the continued dulness in the market for the ore and the large accumulated stock of Chromite on the mines, further mining of this ore at Byrapur was stopped in accordance with the resolution of the Chrome Committee and work on the mine was confined mostly to the carrying on of dead work. Owing to slackness of work, the establishment on the mine was considerably reduced. During the year, the total output of Chrome ore from the Byrapur Mine was only 180 tons. A quantity of 2,300 tons out of ore held in stock was however sold and a sum of Rs. 45,000 realised. The total expenditure incurred on this mine during the year was Rs. 7,790. The total output of ore at the Talur Mine was 1,148 tons. Eight hundred tons of ore were sold during the year at Rs. 19 per ton and Rs. 15,200 realised. The total amount spent on this mine was Rs. 14,143. The most important work carried out in this mine during the year was the electrification of the mine and the erection of a pump and motor for the continuance of deep mining. The Director states that the Government Chromite ore mined at Byrapur and Talur is of late building up a reputation in foreign markets on account of its quality, but owing to the long lead to the railway line and the heavy railway freights it is found difficult to compete with ores which are more favourably situated and that therefore a reasonable reduction in railway freight rates is very essential. This question requires careful examination and the Director is requested to submit a separate report to Government explaining fully the advantages or disadvantages of marketing the ore abroad under Government control and the facilities required for transport of ore to rail head and thence to the port of embarkation. The quantity of graphite mined from the deposit at Ganacharpur and supplied to the Mysore Iron Works at Bhadravati for foundry purposes was about 95 tons. The authorities of the Mysore Iron Works raised 28,014 tons of iron ore from the Kemmangundi Hills and 3,487 tons of silicious iron ore from the deposits near Tanigebyle for the Iron Works at Bhadravati during the calendar year 1930.

Practical Training.

The students of the B.Sc. Honours Class of the Central College received practical instruction in Geological Survey, Prospecting and Mining Methods at the Talur Chrome Mine and also at the Oorgaum Mine, Kolar Gold Field.

LECTURES TO STUDENTS.

Mr. Sen, Deputy Director, delivered a series of lectures on "Engineering Geology" to the final year students of the Government Engineering College at Bangalore. Two series of lectures on (1) Economic Importance of the Archaean Formations in India (2) Geological and Economic Aspects of Rare Earths were delivered to the B.Sc. (Geology Honours) students of the Central College by Mr. M. B. Ramachandra Rao, Officiating Sub-Assistant Geologist. The latter also delivered a lecture on "Mica with special reference to the Electrical Industry" under the auspices of the Electrical Engineering Society of the Indian Institute of Science at Bangalore.

V. ENGINEERING AND ALLIED ACTIVITIES.

Technical advice was furnished by the Department after personal inspection in connection with the Thippagondanahalli Reservoir Project of the New Bangalore Water Works, the dam across the Kabani river at Kalsargur in the Heggaddevankote Taluk, the feeder channel of the Thimmannanaikankere in Chitaldrug Town and the sinking of a bore hole by the Industries and Commerce Department for water supply near Agara in the Bangalore Taluk. As regards the necessity for the maintenance of a systematic record of Geological and economic information obtained during well-boring operations which was pointed out in previous reports, the Director of Geology reports that the co-operation of the officers of the Geological Department is not sought for more frequently by the Industries and Commerce Department in the Well-Boring Operations undertaken by them. The attention of the Director of Industries and Commerce is invited to this matter and he is requested to co-operate with the Geological Department in this direction as far as possible.

VI. ECONOMIC INVESTIGATIONS.

Ferro-Chrome Experiment.—In continuation of the preliminary experiments carried on in 1929-30 in the manufacture of ferro-chrome, further experiments were conducted at Bangalore first with a single-phase arc furnace and subsequently with a three-phase arc furnace on receipt of two new electrical transformers and the results were encouraging.

(2) *Potash Felspar.*—Ten tons of potash felspar and 10 tons of white quartz were supplied to the Government Porcelain Factory at Bangalore. In connection with the supply of potash felspar for the above Factory, the country round about Bangalore was surveyed within a radius of six miles. As regards white quartz, about three square miles of country to the south of Pinya on the Bangalore-Nelamangala road were examined in detail and all the white quartz reefs in the area were mapped and measured. About 2,000 tons of good white quartz were estimated to be available in this area.

(3) *Reservation of Limestone and Kankary Limestone.*—In August 1930, Government passed orders directing the reservation to Government of all limestone and kankary limestone throughout the State including forest areas.

(4) *Collection of Statistics re Lesser Minerals.*—With a view to get timely and accurate information of regular statistics of the lesser economic minerals of the State, Government issued a circular in September 1930, laying down clear and definite instructions to village and taluk officers to maintain proper registers and submit statements on specified dates.

Necessary forms for the registers were prescribed in consultation with the Revenue Commissioner and forwarded for being printed.

VII. CHEMICAL LABORATORY.

The Chemical Laboratory attached to the Department worked satisfactorily during the year. The total number of samples analysed for the Department was 77 while that for the public and other Departments was only 15 as against 58 in the previous year. Consequently a sum of Rs. 92 only was realised in the shape of fees for analyses for the public as against Rs. 654 in the previous year. The fall is attributable to trade depression on account of which many samples were not received for analyses from the public.

VIII. PUBLICATIONS.

Two Records Volumes XXVII and XXVIII and Bulletin (No. 11) on the Mineral Production of Mysore were issued during the year and Vol. XXIX was prepared and sent to Press.

IX. MISCELLANEOUS.

As in previous years, the Department participated in the Mysore Dasara Exhibition of 1930. The various exhibits not only proved attractive to the general public but were also highly instructive to students. A typical collection of 36 specimens of minerals, rocks and ornamental stones of this State, together with maps was sent to the Empire Mineral Resources Exhibition held in London in February, March and April 1931. It is reported that the collection was highly appreciated. On a reference made by the Director, Government passed orders in May 1931, laying down the procedure to be adopted in regard to the grant of permission to lessees to cultivate lands included in mining leases within the State. On 17th December 1930, His Highness the Maharaja of Travancore paid a visit to the Museum and Laboratories attached to the Department and was very much interested in the exhibits of minerals and allied products of the Mysore State.

X. CONCLUSION.

Government are glad to note that the work of the Department during the year under report was satisfactory.

B. T. KESAVA IYENGAR,
Secretary to Government,
Development Department.

PUBLIC WORKS SECRETARIAT.

Revised forms of Mutchalikas for irrigation under the Irwin Canal.

READ—

1. Government Order No. C. 93-120—K. S. S. 570-597, dated 8th June 1931, laying down the policy of Irrigation to be adopted and other matters connected with the Development of Irrigation under the Irwin Canal.

2. Note No. D. 113—K. S. S., dated 29th September 1931, from the Secretary to Government, Krishnarajasagara Works, on the resolution of the Krishnarajasagara Working Committee, dated 8th September 1931, in regard to revision in the forms of mutchalikas to be executed by raiyats in connection with the Irrigation under the Irwin Canal.

ORDER No. 786-810—K. S. S. 2611-2635, DATED 26TH NOVEMBER 1931.

In Government Order No. C. 93-120—K. S. S. 570-597, dated 8th June 1931, read above, Government fixed the water rates for the first six years for the lands under the Irwin Canal and directed that the rates be revised after six years as recommended by the Krishnarajasagara Committee. The Krishnarajasagara Working Committee constituted in Government Order No. P. W. 169-96—K. S. S. 533-60, dated 4th August 1931, in their resolution No. 4 of the first meeting held on 8th September 1931, have brought to notice that the condition laid down in the Government Order read above that the water rate is liable to revision after six years is indefinite and has caused misapprehension in the minds of the raiyats regarding the effects of such a revision, and that it is therefore desirable to fix a limit to such revision of rates. They recommend that the first revision may be made after six years and thereafter at intervals of 10 years and that no revision should exceed a maximum limit of 25 per cent.